WS1093 PROFESSIONAL WIRELESS WEATHER STATION WITH TOUCHSCREEN AND USB UPLOAD

WS1093 PROFESSIONAL WIRELESS WEATHER STATION WITH TOUCHSCREEN AND USB UPLOAD

Operation Manual

Thank you and congratulations on selecting this professional weather station.   We are positive you will enjoy the benefits of accurate weather readings and information that our weather stations offer.   This manual will guide you step-by-step through setting up your device. Use this manual to become familiar with your professional weather station, and save it for future reference.

Important!

Warranty and Support

We warrant our products to be free of defects in components and workmanship, under normal use and service, for one year from the date of original purchase. For product support and warranty claims please contact the following:

- **Purchased in the EU:**   As many issues can be a result of incorrect setup please contact our local distributor www.greenfrogscientific.co.uk and their team will be happy to help.   Genuine faults can typically be diagnosed by our technicians without requiring the unit to be returned and replacement parts sent quickly if needed.

- **Purchased in AUSTRALIA:**   As many issues can be a result of incorrect setup please contact our local distributor Monax Test & Weather www.monaxtestandweather.com.au and their team will be happy to help.   Genuine faults can typically be diagnosed without requiring the unit to be returned and replacement parts sent quickly if needed.

- **Purchased in NEW ZEALAND:**   As many issues can be a result of incorrect setup please contact our local distributor Scientific Sales www.scientificsales.co.nz and their team will be happy to help.   Genuine faults can typically be diagnosed without requiring the unit to be returned and replacement parts sent quickly if needed.

For all others please contact the seller who sold you this item.

Getting Started

The WS1093 touch screen weather station includes a base station (receiver), a transmitter unit, one wind direction sensor, one wind speed sensor, one rain gauge, one mounting tree, one USB cable and a downloadable PC software package.

The Base Station is equipped with a Touch Screen LCD Monitor and allows the display of a large variety of time and weather data:
- Top Line - Time and Memory Data Usage
- Left Middle - Wind, Air Pressure and Air Pressure History
- Right Middle - Date, Rain measurement and Weather Forecast (Tendency)
- Bottom Line - In-Out Temperature and Humidity

Note: The presence of the "Alarm-On icon" means that the particular alarm has been enabled.
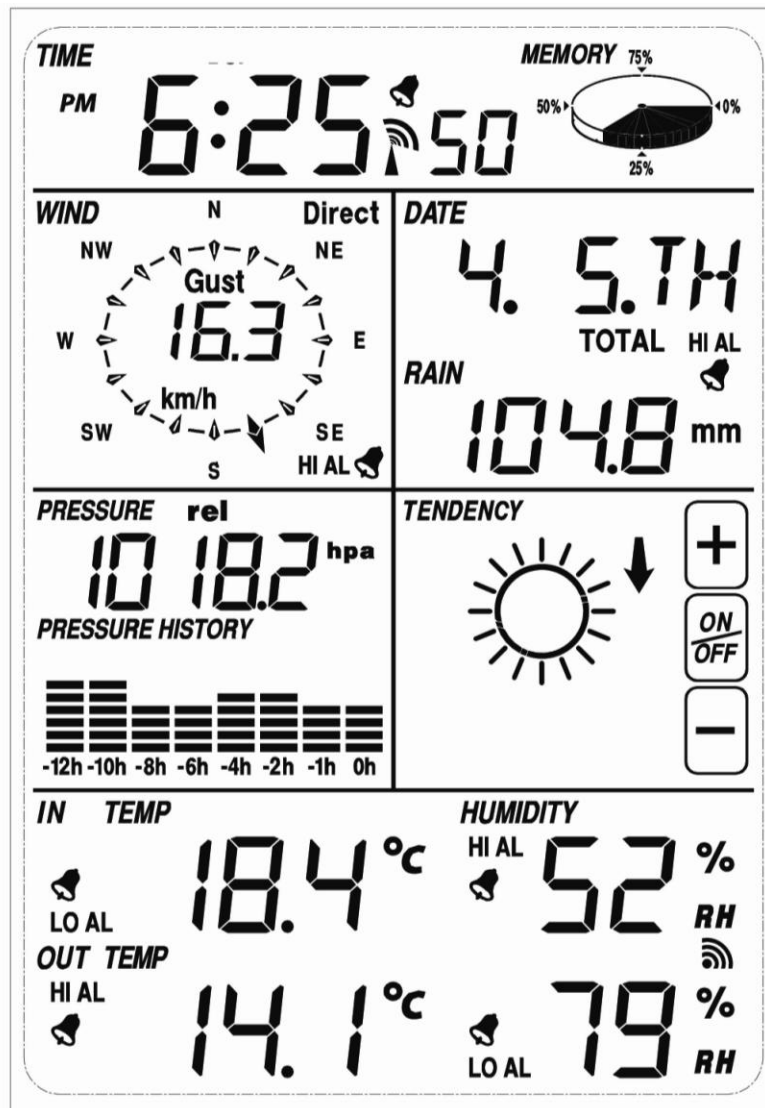
Important Operation Notes

All actions and functions of the weather station are started on the touch screen by slightly touching (not pressing) the related areas with the stylus, touch the flashing +, ON/OFF or – to make the corresponding selection increase or decrease.

Note: the stylus can be found on the top rear of the console and can sometimes be stiff to remove the first time.

Every time a programming step is activated by touching the related area on the Touch Screen a tone will sound and the back light will come on for a few seconds.   If no areas are pressed for 30 seconds the LCD will automatically revert to the normal display mode (automatic time out).

Important Notes

System Start

Insert two LR6 (AA) size batteries into the transmitter.   The LED located in the middle on the front of the transmitter will illuminate for 4 seconds, then go off.   The transmitter will make an initial data transmission and then start the radio controlled time reception routine.   When reception of the time signal is not possible the transmitter will terminate radio controlled time reception after no more than five minutes and resume normal transmission.   During the radio controlled time reception period there is no transmission of the outdoor weather data to the console.

Note: no time signal is available in Aus/NZ.

Insert two LR6 (AA size) batteries into the Base Station.   The console will illuminate for a few seconds with all the display segments illuminated for checking.   After this the Base Station will make an initial measurement and start to register the transmitter (the Outdoor Reception Signal icon between the two humidity readings will be turned on). Do not touch the Base Station before the outdoor data is received or the outdoor sensor learning mode will be terminated. When the outdoor transmitter has been registered the Base Station will automatically switch to the normal display mode from which all further settings can be adjusted by the user.

If no radio controlled clock (RCC) signal is detected during the initial setup, the transmitter will try once every hour to get the RCC signal until a signal is received.   Once the transmitter receives the RCC signal it will transmit the signal to the Base Station which will display the Radio Controlled Clock icon and the time will synchronise to the RCC time.   If the Base Station does not receive the RCC signal or loses the signal the RCC icon will not be displayed.

Positioning

Once you have verified that all of the components of the weather station are working they can be positioned in their permanent places. Before permanently mounting make sure that all the components work properly together at their chosen mounting or standing locations. If there appear to be problems with the 433 MHz radio transmission they can mostly be overcome by moving the mounting locations.

Note: The radio communication between the receiver and transmitter in an open field can reach a distance of up to 100m providing that there are no interfering obstacles such as buildings, trees, vehicles, high voltage lines, etc. Radio interferences such as PC screens, radios or TV sets, can in bad cases entirely cut off radio communication. Please take this into consideration when choosing standing or mounting locations.

Reconnecting Lost Signal
If no outdoor weather data is displayed as a result of loss of signal during set up, mounting, changing of batteries in the transmitter or plugging or unplugging cables, simply remove the batteries from the Base Station wait 2 minutes and reinsert.   After this the Base Station will make an initial measurement and start to register the transmitter (the Outdoor Reception Signal icon will be turned on). Do not touch the Base Station before the outdoor data is received (this may take several minutes) or the outdoor sensor learning mode will be terminated. When the outdoor transmitter has been registered the Base Station will automatically switch to the normal display mode from which all further settings can be adjusted by the user.

Note: When replacing batteries in the transmitter wait two minutes before re-inserting for a proper reset.

Wind Direction
On the edge of the wind direction sensor, there are four letters - "N", "E", "S" and "W" representing the directions North, East, South and West. The wind direction sensor has to be adjusted so that the directions on the sensor are matching your real location. A permanent wind direction error will be introduced when the wind direction sensor is not positioned correctly during installation.

Batteries
Note: Incorrectly inserting the batteries may cause a fault and invalidate the warranty so take care to insert them with the correct polarity.
Note: Many rechargeable batteries are 1.2V and as such are not suitable for this unit which requires 1.5V batteries.   Rechargeable batteries also often leak their peak charge quickly which can cause reduced transmission range.   As such we recommend avoiding the use of rechargeable batteries.
Note: The performance of Alkaline batteries can be significantly reduced in colder environments resulting in loss of signal. In this case we recommend the use of Lithium batteries in the thermo-hygro sensor.

Low Battery Indicator

The transmitter low battery indicator may illuminate when temperatures are outside the range of 10-35C.   This does not necessarily indicate low batteries and will switch off once the temperature returns to this range (also see note above on the use of Alkaline batteries).

Setup - Sensors

①

②

③

④

⑤

⑥

⑦
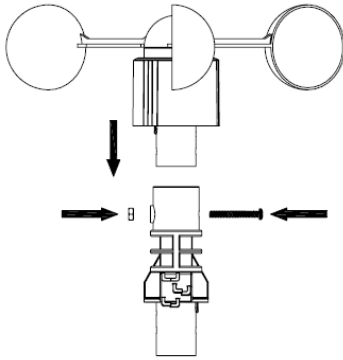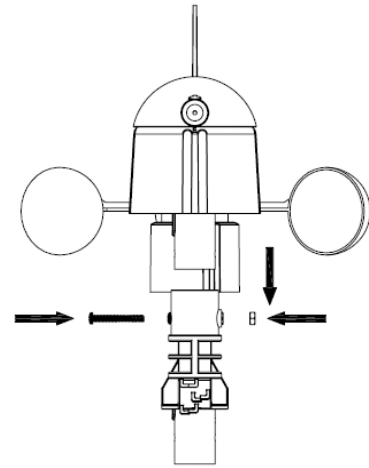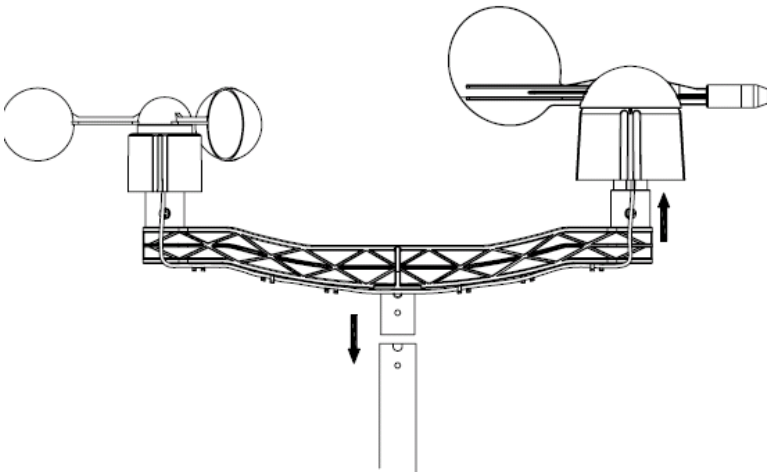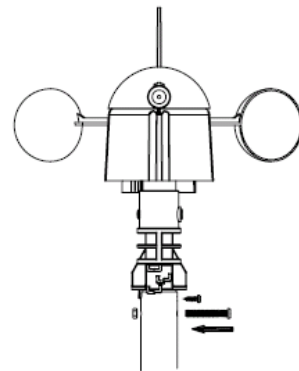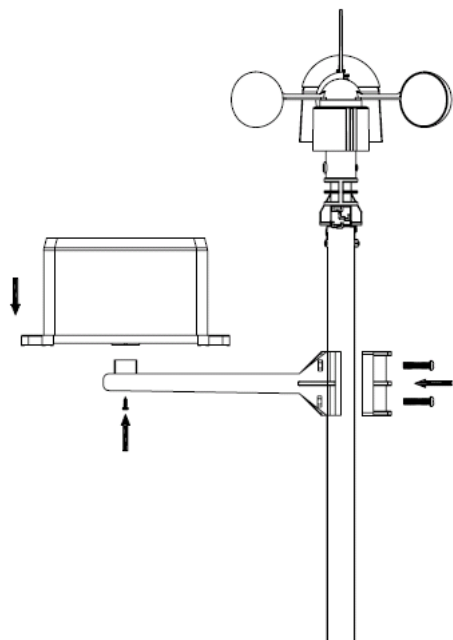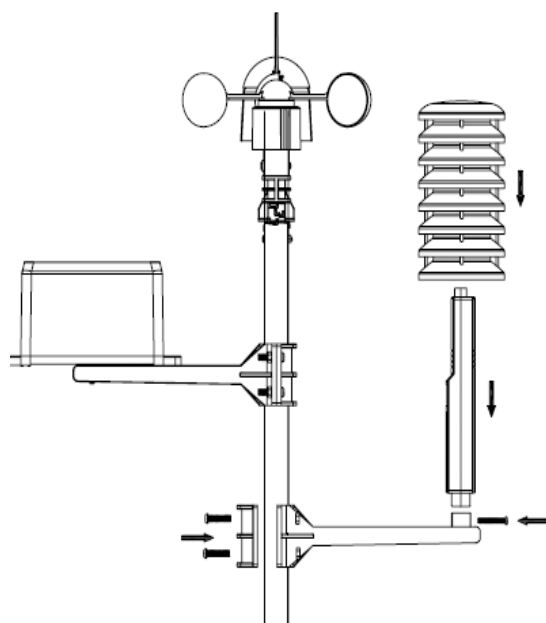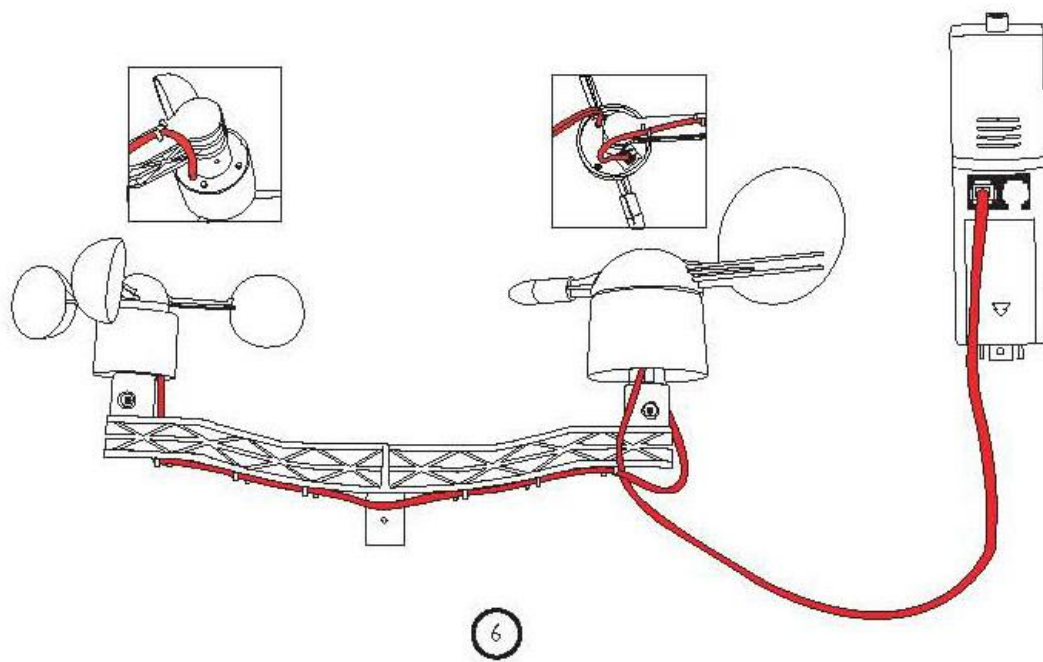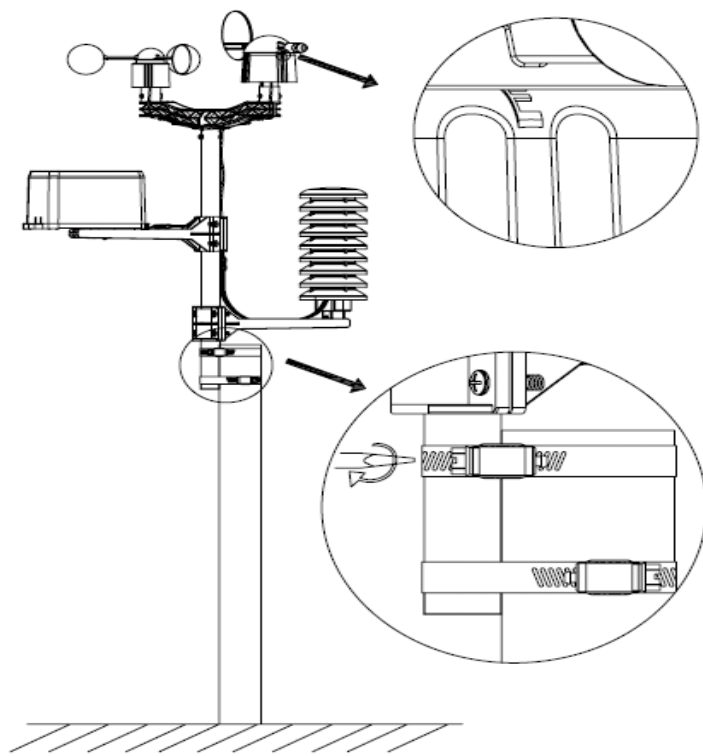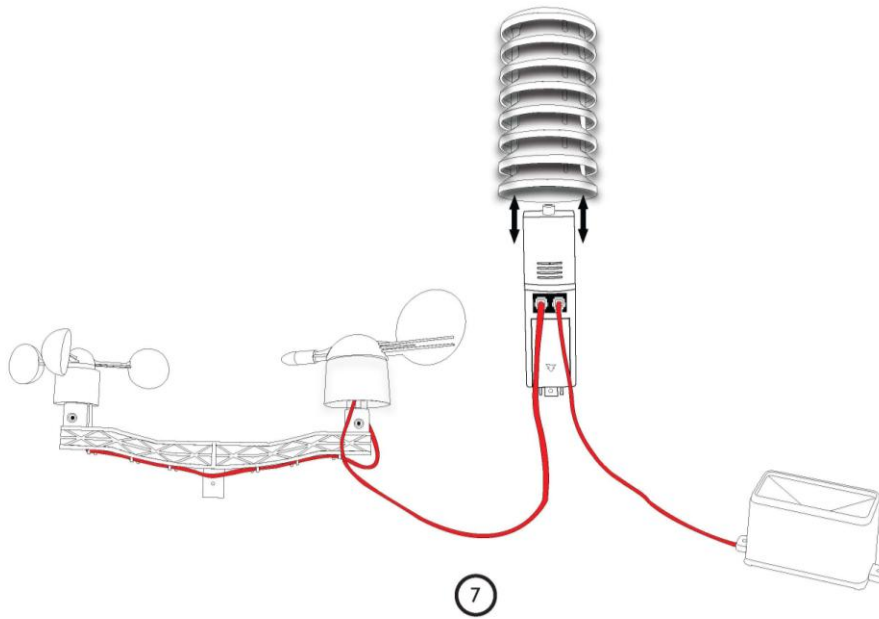
- The wind speed sensor's cable is connected to the wind direction sensor.
- The wind direction sensor's cable is connected to the input marked **Wind** on the thermo-hygro sensor.
- The rain sensor's cable is connected to the input marked **Rain** on the thermo-hygro sensor.

Setting Up

For basic settings touch the Touch Screen in the desired display area using the stylus. Note: setting procedure can be exited at any time by touching any other function area (except "+", "-" or "ON/OFF". The basic settings can be performed as follows:

Time

1) Touch the TIME section, the + and – button will be flashing. Touch the + button or – button to adjust the contrast level from 0 to 8 (default 5).
2) Touch the TIME section again, the + and – button will be flashing. Touch the + button or – button to set the time zone.
3) Touch the TIME section a third time, the + and – button will be flashing. Touch the + button or – button to shift between the 12 and 24 hour formats.
4) Touch the TIME section a fourth time to set the hour setting, the + and – button will be flashing. Touch the + button or – button to change the value.
5) Touch the TIME section a fifth time to set the minute setting, the + and – button will be flashing. Touch the + button or – button to change the value.

Note: The radio controlled clock (RCC) works off the German DCF77 time signal received across large parts of Europe and the UK so set your time zone as follows:

Country	Time Zone setting	Country	Time Zone setting
Iceland (-2 for German DST)	-1	Poland	0
Ireland	-1	Slovakia	0
Portugal	-1	Spain	0
United Kingdom	-1	Sweden	0
Albania	0	Switzerland	0
Austria	0	Bulgaria	+1
Belgium	0	Estonia	+1
Croatia	0	Finland	+1
Denmark	0	Greece	+1
France	0	Latvia	+1
Germany	0	Lithuania	+1
Hungary	0	Moldova	+1
Italy	0	Romania	+1
Netherlands	0	Turkey	+1
Norway	0	Ukraine	+1

Note: Because of the default settings already determined by the manufacturer it may not be necessary for the majority of users to perform any further basic settings - except for the Relative Air Pressure (see below). Changes, however, can be easily made.

Memory

1) Touch the Memory section to activate the history data toggle display, the ⊞ and ⊟ button will be flashing. Press the ⊟ button to toggle back to see earlier weather history data together with its time stamp, press the ⊞ button to see more recent weather history data. When the history data is displayed the corresponding time will be displayed in the time section area (the history data saving interval is preset to 30 minutes). **Note:** Historical values for some variables are only available once downloaded to PC and will appear as dashes on the Base Station.

2) Touching the Memory section again will trigger the memory clear procedure, the word "CLEAR" will be flashing and the full memory usage icon will be flashing. Pressing and holding the memory full icon for 3 seconds will clear the memory.

Wind Speed
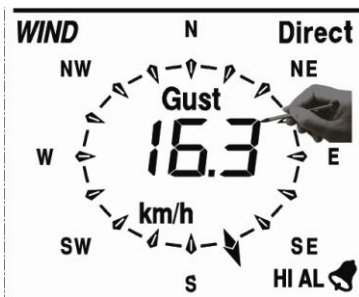
1) Touch the WIND SPEED section, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to shift the display between the Wind Average Speed and Gust Speed. **Note:** Average wind speed is the average speed over the 48 second period between signal transmissions. In gusty conditions this may appear as though wind speed is being under reported as low winds and high winds are averaged across the 48 second interval. Setting wind speed to Gust will display the maximum wind speed during the 48 second period which can often be more meaningful in these conditions.

2) Touch the WIND SPEED section again, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to select the wind speed unit - km/h, mph, m/s, knots, or bft.

3) Touch the WIND SPEED section a third time to set the high alarm function, the ⊞, ON/OFF and ⊟ button will be flashing, the HI AL icon will light up. Touch the ⊞ button or ⊟ button to change the value, hold the ⊞ button or ⊟ button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

4) Touch the WIND SPEED section a fourth time to set the wind direction alarm function, the wind direction arrow will start flashing. Touch the ⊞ or ⊟ button to select the desired alarm for wind direction, press ON/OFF to enable or disable the wind direction alarm.

5) Touch the WIND SPEED section a fifth time to display the maximum wind speed record, the recorded maximum value will be flashing, the MAX icon will light up. If you hold the maximum value for 3 seconds the maximum value will be reset to the current reading.

Date

1) Touch the DATE section, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to shift between alarm, date and day of the week format.
2) Touch the DATE section again, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to Shift between DD-MM format and MM-DD format for the date.
3) Touch the DATE section a third time, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the year. Hold the ⊞ button or ⊟ button for 3 seconds to change the number faster.
4) Touch the DATE section a fourth time, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the month. Hold the ⊞ button or ⊟ button for 3 seconds to change the number faster.
5) Touch the DATE section a fifth time, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the day. Hold the ⊞ button or ⊟ button for 3 seconds to change the number faster.
6) Touch the DATE section a sixth time, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the alarm hour. Hold the ⊞ button or ⊟ button for 3 seconds to change the number faster.
7) Touch the DATE section a seventh time, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the alarm minute. Hold the ⊞ button or ⊟ button for 3 seconds to change the number faster. Touch ON/OFF to enable or disable the time alarm function.

Rain

1) Touch the rain section, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to shift the display between 1h, 24h, week, month and total rain. **Note:** The measurement intervals are rolling intervals.   For example the 24 hour mode is a rolling 24 hours so whenever you look at it it will show the rainfall for the immediately preceding 24 hours.   If you look at it at 8am Monday it will show the total rainfall from 8am Sunday through to 8am Monday.   If you look at it at 9am Monday it will show the total rainfall from 9am Sunday through to 9am Monday and so on.
2) Touch the rain section again, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to select the rain fall unit - mm or inches.
3) Touch the rain section a third time to set the high alarm function, the ⊞, ON/OFF and ⊟ buttons will be flashing, the HI AL icon will light up. Touch the ⊞ button or ⊟ button to change the value, hold the

[+] button or [–] button for 3 seconds to change the number faster. Touch the [ON/OFF] button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

4) Touch the rain section a fourth time to display the current maximum rain fall record. Touching the rain section for 3 seconds will reset the maximum rain fall value to the current value.

5) Touch the rain section a fifth time to reset the rain fall value to 0. By pressing the rain section for 3 seconds the 1h, 24h, week, month and total rain will be reset to 0.

Pressure

1) Touch the PRESSURE section, the [+] and [–] button will be flashing. Touch the [+] button or [–] button to shift the display between Absolute pressure and Relative pressure.   Relative pressure value - if you are significantly above sea level you will need to calibrate the air pressure reading to allow for your altitude.   To do so make sure you have selected Relative as above and change the pressure reading to match with a local benchmark such as the local air pressure provided for your area on the Met Service or Bureau of Meteorology websites.   If Absolute pressure is selected, skip this step.

2) Touch the PRESSURE section again, the [+] and [–] button will be flashing. Touch the [+] button or [–] button to shift the display unit between hPa, inHg and mmHg.

3) Touch the PRESSURE section a third time to set the Relative Pressure value. The [+] and [–] button will be flashing, the rel icon will light up. Touch the [+] button or [–] button to change the value, hold the [+] button or [–] button for 3 seconds to change the number faster.

4) Touch the PRESSURE section a fourth time to set the pressure high alarm function, the [+], [ON/OFF] and [–] button will be flashing, the HI AL icon will light up. Touch the [+] button or [–] button to change the value, hold the [+] button or [–] button for 3 seconds to change the number faster. Touch the [ON/OFF] button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

5) Touch the PRESSURE section a fifth time to set the pressure low alarm function, the [+], [ON/OFF] and [–] button will be flashing, the LO AL icon will light up. Touch the [+] button or [–] button to change the value, hold the [+] button or [–] button for 3 seconds to change the number faster. Touch the [ON/OFF] button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

6) Touch the PRESSURE section a sixth time to display the maximum pressure record, the recorded maximum value will be flashing, the MAX icon will light up. By pressing the maximum value for 3 seconds the maximum value will be reset to the current reading.

7) Touch the PRESSURE section a seventh time to display the minimum pressure record, the recorded minimum value will be flashing, the MIN icon will light up. By pressing the minimum value for 3 seconds the minimum value will be reset to the current reading.

Note: when absolute pressure is selected, step 3 will be skipped since absolute pressure is selected for display.

Pressure bar graph

Touch the PRESSURE BAR GRAPH section and then press the ⊞ or ⊟ button to toggle the bar graph time scale between 12 hrs or 24 hrs for pressure history.

Weather Forecast
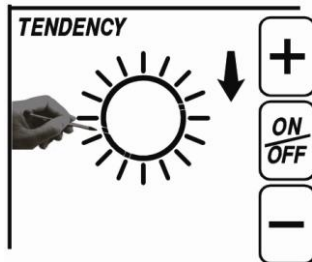
1) Touch the WEATHER FORECAST section, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to shift the display between SUNNY, PARTLY CLOUDY, CLOUDY and RAINY icon (not generally required as this will adjust automatically over a few days as the unit collects data and begins forecasting).
2) Touch the WEATHER FORECAST section again, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the pressure threshold from 2-4hPa (default 2hPa).
3) Touch the WEATHER FORECAST section a third time, the ⊞ and ⊟ button will be flashing. Touch the ⊞ button or ⊟ button to set the storm threshold from 3-9hPa (default 4 hPa).

Note: The prediction is for the upcoming 12 - 24 hours and does not necessarily reflect the current weather situation. It calculates on the basis of the pressure changes that have occurred during the past 24 hours the most likely weather forecast for the upcoming 12 - 24 hours. The weather forecast predicted has a probability of 70%. This means that observed over a period of several weeks, 7 from 10 forecasts for the upcoming 12 - 24 hours will be correct. Observing the forecast for only a few days is not sufficient to draw any conclusions re accuracy.

Notes on the pressure sensitivity setting for weather forecasting

The pressure threshold can be set to suit the user's requirements for weather forecasting - anywhere from 2-4hPa (default 2hPa). Areas that experience frequent changes in air pressure require a higher setting compared to areas where the air pressure is stagnant. For example if 4hPa is selected, then there must be a fall or rise in air pressure of at least 4hPa before the weather station will register this as a change in weather.

Notes on the storm threshold setting

The storm threshold can be set to suit the user's requirements for storm forecasting - anywhere from 3-9hPa (default 4hPa). When there is a fall below the pressure threshold within any given 3 hour period, the storm forecasting will be activated and the clouds with rain icon as well as the tendency arrows will flash for 3 hours indicating the storm warning feature has been activated.

Indoor Temperature

IN TEMP · 18.4 °C · HUMIDITY HI AL 52 % RH

OUT TEMP · 14.1 °C · LO AL 79 % RH
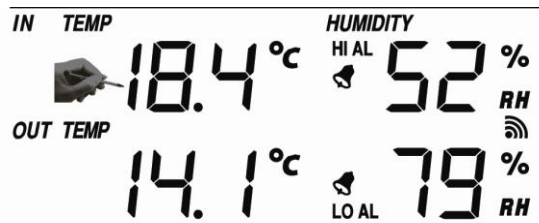
1) Touch the INDOOR TEMPERATURE section, the + and – button will be flashing. Touch the + button or – button to shift the display unit between C and F.
2) Touch the INDOOR TEMPERATURE section again to set the indoor temperature high alarm function, the +, ON/OFF and – button will be flashing, the HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).
3) Touch the INDOOR TEMPERATURE section a third time to set the indoor temperature low alarm function, the +, ON/OFF and – button will be flashing, the LO AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).
4) Touch the INDOOR TEMPERATURE section a fourth time to display the maximum indoor temperature record, the maximum records will be flashing, the MAX icon will light up. By pressing the flashing max value for 3 seconds the maximum value will be reset to the current reading.
5) Touch the INDOOR TEMPERATURE section a fifth time to display the minimum indoor temperature record, the minimum records will be flashing, the MIN icon will light up. By pressing the flashing min value for 3 seconds the minimum value will be reset to the current reading.

Outdoor Temperature

IN TEMP · 18.4 °C · HUMIDITY HI AL 52 % RH

OUT TEMP · 14.1 °C · LO AL 79 % RH
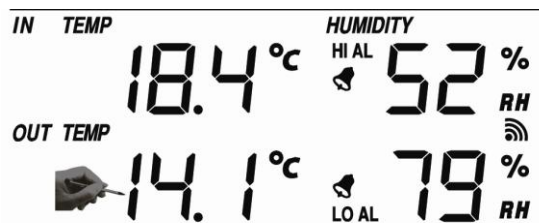
1) Touch the OUTDOOR TEMPERATURE section, the + and – button will be flashing. Touch the + button or – button to shift the display between Outdoor Temperature, Wind Chill and Dew Point.
2) Touch the OUTDOOR TEMPERATURE section again, the + and – button will be flashing. Touch the + button or – button to shift the display unit between C and F.
3) Touch the OUTDOOR TEMPERATURE section a third time to set the outdoor temperature high alarm function, the +, ON/OFF and – button will be flashing, the HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).
4) Touch the OUTDOOR TEMPERATURE section a fourth time to set the outdoor temperature low alarm

function, the $+$, ON/OFF and $-$ button will be flashing, the LO AL icon will light up. Touch the $+$ button or $-$ button to change the value, hold the $+$ button or $-$ button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

5) Touch the OUTDOOR TEMPERATURE section a fifth time to display the maximum outdoor temperature record, the recorded maximum value will be flashing, the MAX icon will light up. By pressing the flashing max value for 3 seconds the maximum value will be reset to the current reading.

6) Touch the OUTDOOR TEMPERATURE section a sixth time to display the minimum outdoor temperature record, the recorded minimum value will be flashing, the MIN icon will light up. By pressing the flashing minimum value for 3 seconds the minimum value will be reset to the current reading.

Indoor Humidity

1) Touch the INDOOR HUMIDITY section to set the indoor humidity high alarm function, the $+$, ON/OFF and $-$ button will be flashing, the HI AL icon will light up. Touch the $+$ button or $-$ button to change the value, hold the $+$ button or $-$ button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

2) Touch the INDOOR HUMIDITY section again to set the indoor humidity low alarm function, the $+$, ON/OFF and $-$ button will be flashing, the LO AL icon will light up. Touch the $+$ button or $-$ button to change the value, hold the $+$ button or $-$ button for 3 seconds to change the number faster. Touch the ON/OFF button to turn the alarm on or off (the alarm icon will be turned on indicating the alarm function has been activated).

3) Touch the INDOOR HUMIDITY section a third time to display the maximum indoor humidity record, the recorded maximum value will be flashing, the MAX icon will light up. By pressing the maximum value for 3 seconds the maximum value will be reset to the current reading.

4) Touch the INDOOR HUMIDITY section a fourth time to display the minimum indoor humidity record, the recorded minimum value will be flashing, the MIN icon will light up. By pressing the minimum value for 3 seconds the minimum value will be reset to the current reading.
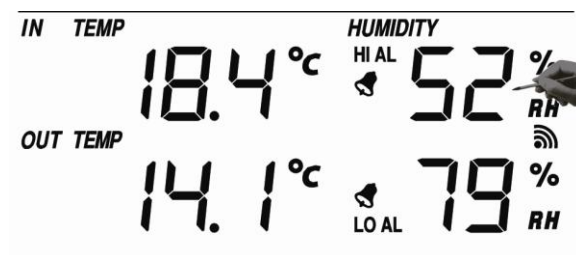
Outdoor Humidity
Procedures and settings are similar to Indoor humidity

PC Connection

An important feature of the WS1093 is the capability for the recorded data to be downloaded, stored and displayed on your PC.

Data Storage
The Base Station allows the internal storage of up to 4,080 complete sets of weather data with time and date. Note: this data is lost when the batteries are removed so download to your PC prior to removing the batteries if you wish to retain this information. When the memory capacity of the weather station is exhausted the oldest data sets stored will be overwritten by the new ones.

Data Recall
Certain weather data or setting values can only be read out, processed, and displayed by means of a PC.

Software Download
Note: No CD is contained with this unit please download the latest software and Basic Installation Guide by entering the link below into your browser's address bar:

http://www.boxcn.net/CumulusDownload

This software allows the display, storage, and printing of historical data.   In addition the software allows the data to be uploaded and displayed on a website.

Cumulus has a comprehensive Wiki and Support Forum for any software related issues:

http://wiki.sandaysoft.com/a/Main_Page

http://sandaysoft.com/forum/

Note: To get accurate sunrise and sunset data make sure to enter the Latitude and Longitude for your location in the boxes provided in the centre of the Station Settings panel.   Latitude and Longitude for your location can be found here:

http://www.findlatitudeandlongitude.com/

Trouble Shooting

Problem	Solution
I am not receiving any outside data.	Check that batteries in both units are fresh and fully charged. Alkaline batteries slow down and freeze in colder temperatures which leads to signal dropouts so we recommend Lithium batteries in colder climates. Also avoid rechargeable batteries as many are 1.2V (standard 1.5V required) and they also leak their peak charge quickly even if they are 1.5V. Put the batteries in the receiver last to force a proper resync. Check that the transmitter is not out of range. Test this by taking the receiver closer to the transmitter, remove and reinsert the batteries and wait for a few minutes to see whether the signal is picked up. Check for sources of interference (cordless phones, baby monitors, PC monitors etc). If this is an issue the console and/or transmitter will need to be relocated. If none of these is causing the problem you may have a faulty transmitter.
My wind speed appears to be under reporting.	When set to Average, wind speed is measured as the average speed recorded over the 48 second period between transmissions. In gusty weather this can appear as though it is under reading. Set this to Gust (see Wind section above) to view the maximum wind speed during each 48 second period.
My rain gauge is under reporting rainfall or not recording it at all.	Remove the cover from the rain gauge and check for spider webs etc that may be impeding the tipper's motion. Tip the tipper back and forth, each tip should register as 0.3mm on the console if it is operating correctly (remember the transmission interval is every 48 seconds so allow sufficient time for the console to register the tips).
My rain gauge is over reporting rainfall.	On rare occasions wind can enter the rain gauge from underneath and cause the rain gauge's tipper mechanism to tip and register false rain readings. In this case mount the rain gauge on a flat surface or mount a plastic plate under the rain gauge to prevent the wind entering. Insecurely mounted sensor trees can also sway in strong winds and cause false rain readings.

Specifications

Outdoor data

Transmission distance in open field: Up to 100m (line of site)
Frequency: 433 MHZ
Temperature range: - 40C to +65C (show OFL if outside range)
Resolution: 0.1C
Measuring range rel. humidity: 10% to 99%
Rain volume display: 0 – 9999mm (show OFL if outside range)
Resolution: 0.3mm (if rain volume < 1000mm)
    1mm (if rain volume > 1000mm)
Wind speed: 0-160kph (show OFL if outside range)

Measuring interval thermo-hygro sensor: 48 sec
Water proof level: IPX3

Indoor data

Measuring interval pressure / temp: 48 sec
Indoor temperature range: 0C to + 50C (show OFL if outside range)
Resolution: 0.1C
Measuring range rel. humidity: 10% to 99%
Resolution: 1%
Measuring range air pressure: 300-1100hPa (8.85-32.5inHg)
Accuracy: +/-3hpa between 700-1100hPa
Resolution: 0.1hPa
Alarm duration: 120 sec

Power consumption

Base station   **2**XAA 1.5V batteries
Remote sensor: 2xAA 1.5V batteries

Contact Information

Purchased in UK/EU: Please contact our local distributor Greenfrog Scientific www.greenfrogscientific.co.uk and their team will be happy to help. Genuine faults can typically be diagnosed without requiring the unit to be returned and replacement parts sent quickly if needed.

Purchased in AUSTRALIA: Please contact our local distributor Monax Test & Weather www.monaxtestandweather.com.au and their team will be happy to help. Genuine faults can typically be diagnosed without requiring the unit to be returned and replacement parts sent quickly if needed.

Purchased in NEW ZEALAND: Please contact our local distributor Scientific Sales www.scientificsales.co.nz and their team will be happy to help. Genuine faults can typically be diagnosed without requiring the unit to be returned and replacement parts sent quickly if needed.

For all others please contact the retailer who sold you this item.

EU DECLARATION OF CONFORMITY

Hereby, Aercus Instruments, declares that this Wireless Weather Station (Model: WS1093) is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the signed and dated Declaration of Conformity is available on request from contact@aercusinstruments.com.

COUNTRIES RTTE APPROVAL COMPLIED

All EU countries

This handbook may contain mistakes and printing errors. The information in this handbook is regularly checked and corrections made in the next issue. We accept no liability for technical mistakes or printing errors - or their consequences.